Assessment of nurses' knowledge towards clinical reasoning skills in AL-Diwaniya Teaching Hospital

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Abstract

Descriptive research was carried out from 1/7/2023 to 5/12/2023 to assess the level of clinical reasoning skills among the staff at Al-Diwaniya Teaching Hospital, and to ascertain the demographic characteristics of the participants. A sample of 50 nurses was recruited using potential sampling approaches. The participants in this study were clinical practitioners who gathered data using a specifically designed questionnaire. Data is gathered by employing questionnaire and interview procedures as tools for data gathering. Interviews were done with the nurses employed at Al-Diwaniya Teaching Hospital. Each interview had a duration of 5 to 10 minutes. The data collection process commenced on August 1st and concluded on October 6th. The data were evaluated using descriptive statistical analysis methodologies. The most important conclusions were that there is an acute shortage of nursing staff (nursing specialization), there is an acute shortage of training courses to develop clinical reasoning skills for nurses, and there are large proportions of nurses working in emergency, intensive care and resuscitation units, who are inexperienced groups. There is also an acute shortage of nurses' knowledge and the extent to which they apply clinical reasoning skills, as the repetition rate in the questionnaire paragraphs reached 63.6%. The most important recommendations are to provide the hospital with specialized nursing staff, strengthen the nursing staff, develop their clinical reasoning skills by increasing the quantity of instructional programs in the specific domain of clinical reasoning, and strengthen the intensive care units and emergency and recovery units with nursing staff with experience in the field of clinical work. The study recommended conducting more research in the field of developing clinical reasoning skills among nurses.

Keywords: assessment, clinical reasoning skills, NCRS, nurse knowledge

Introduction

Clinical reasoning refers to the cognitive process employed in making clinical judgments. This process entails gathering the patient's medical history, doing a physical assessment, and interpreting the results to develop health plans (Juma and Goldszmidt, 2017) [7]. The nurse gathers data to address the patient's issue and integrates this information with their expertise to make decisions regarding patient care (Levett-Jones et. al., 2010) [8]. Clinical reasoning is the process of integrating the patient's prior information and applying critical thinking to analyze clinical situations (American Nurses Association, 2015) [9]. Metacognition enables students to utilize various approaches and contemplate techniques to enhance their understanding. It involves contextual problem-solving. According to Simmons (2010), nurses' deficiency in clinical reasoning skills is a significant aspect of clinical reasoning [10]. Can result in inaccurate clinical judgments that have implications for patient safety (2018, 2018). On the other hand, the application of clinical thought in nursing enhances patient recovery and elevates the standard of care. Prior studies have focused on enhancing the quality of clinical care through the implementation of argumentation approaches employing teaching methods. These methods encompass simulation pedagogy and problem-based learning, among others. The reference for the study conducted by Lee et al. in 2016 is [14]. These studies indirectly assessed the argumentation skills based on critical thinking (Hur and Roh, 2013) [13] and problem-solving abilities (Lee et al., 2016) [14], which is insufficient. In the field of education, metacognition is the process of regulating one's behavior in relation to acquiring and utilizing information in order to enhance problem-solving skills. Metacognition assists learners in routinely monitoring and reflecting upon their cognitive processes. The study conducted by Kang et. al. (2008) found that activating metacognition enhances problem-solving abilities. Nurses operate in volatile and intricate circumstances, necessitating prompt and well-informed decision-making to ensure the provision of safe and efficient care. Efficient making decisions depends on the use of advanced solutions and the application of cognitive skills such as thinking critically, thinking imaginatively, and reasoning in clinical situations (CR) (Brown Tyo and McCurry, 2019) [1]. Competency-based assessment (CBA) is a crucial component of nursing practice that empowers nurses to proficiently fulfill their responsibilities (Benner, 2012). The user's text is [3]. The act of seeing it as a core clinical ability is supported by Goudreau & Létourneau (2014) and Simmons (2010). The range is from 2 to 10. The clinical reason method enables the understanding of the patient's state and its development, resulting in the creation of efficient treatment plans (Modi et al., 2015). The user's text is [4] Competent nursing education improves the development of critical thinking skills. The scholarly publication titled

efficient management of nursing and continuing education in nursing authored by Hossein Zadeh et al. in 2022 [5] discusses strategies for efficient nursing management and the importance of continuous professional development in the nursing field. There is empirical evidence supporting the existence of cognitive reasoning skills. There exists a notable correlation between development and the quality of care in education (Alfa Yumi, 2019) [6].

Aim

The aim of this study is to evaluate the proficiency of nurses at Al-Diwaniyah Teaching Hospital in clinical reasoning skills and to determine the demographic features of the hospital's study community.

Methodology

Approach

The research design involves conducting a descriptive cross-sectional study to evaluate the level of knowledge among nurses at Al-Diwaniya Teaching Hospital regarding clinical reasoning.

Sample for research

In order to assess the level of clinical reasoning skills at Al-Diwaniya Teaching Hospital, a sample of (50) respondents was chosen using a simple random selection.

Research location

The research is conducted at Al-Diwaniyah Teaching Hospital.

Data collection

Information collection process started from 1/8/2023 until 6/10/2023 for a sample of 50 nurses in Al-Diwaniya Teaching Hospital.

Questionnaires

The researcher utilized the Clinical Thinking Nursing Scale to create and refine questionnaires for assessing nurses' proficiency in nursing clinical reasoning skills. In order to assess the clinical reasoning skills of the nurses, the researcher used an exploratory study when asking questions to (50) nurses selected according to the original study criteria. Surveys have been created and consist of drawing parts geographical characteristics It consists of (7) elements, which include gender, age, academic achievement, years of work experience and the current workplace, do you have any training course on clinical reasoning skills, do you perform clinical reasoning skills on the patient and knowledge of nurses' assessments towards clinical reasoning skills 22 items.

Reliability

The questionnaire's reliability was assessed by calculating its internal consistency using Cronbach's alpha. The Cronbach's alpha score varied from 0.7 to 0.9, and the resulting internal consistency score was determined to be 0.812. The data collected according to the studied questionnaire, and the internal consistency in light of the responses is successful, all this means that the questionnaire designed was valid for studying the phenomenon on the same population at any time in the future.

Validity

Validity refers to the ability of the tool to measure the variable it is intended to measure. In order to test the validity of the questionnaire, the tool was provided to (10) experts in different fields and for this purpose.

Data analysis

The data was analyzed by (SPSS Version 25). Two different approaches are used for the data analysis include descriptive approach frequency and percent and mean and standards deviation and Cut- offpoint.

Results of the study

Table 1: Distribution of the study sample according to the sex variable

Sex	Frequency	Percent	Valid percent	Cumulative percent
Male	29	58.0	58.0	58.0
Female	21	42.0	42.0	100.0
Total	50	100.0	100.0	

Table 2: Distribution of the study sample according to academic achievement

Academic achievement	Frequency	Percent	Valid percent	Cumulative percent
Nursing preparatory school	17	34.0	34.0	34.0
Nursing Diploma	20	40.0	40.0	74.0
Bachelor of Nursing Sciences	11	22.0	22.0	96.0
Master of Nursing Sciences or more	2	4.0	4.0	100.0
Total	50	100.0	100.0	-

Table 3: Distribution of the study sample according to place of work

Current place of work				
Place of work	**Frequency**	**Percent**	**Valid percent**	**Cumulative percent**
Cardiac resuscitation unit	16	32.0	32.0	32.0
Intensive care unit	3	6.0	6.0	38.0
Emergency unit	31	62.0	62.0	100.0
Total	50	100.0	100.0	-

Table 4: Distribution of the study sample according to the age variable

Age		Frequency	Percent	Valid percent	Cumulative percent
Valid	Less than 20 years	10	20.0	20.0	20.0
	From 20 to less than 40 years old	33	66.0	66.0	86.0
	40 years and over	7	14.0	14.0	100.0
	Total	50	100.0	100.0	-

Table 5: Distribution of the study sample according to the number of years of experience

Years of experience				
Years of experience	**Frequency**	**Percent**	**Valid percent**	**Cumulative percent**
Less than 5 years old	23	46.0	46.0	46.0
From 5 years to less than 10 years	3	6.0	6.0	52.0
From 10 years to less than 15 years	8	16.0	16.0	68.0
From 15 years to less than 20 years	5	10.0	10.0	78.0
From 20 years to less than 25 years	4	8.0	8.0	86.0
25 years and over	7	14.0	14.0	100.0
Total	50	100.0	100.0	-

Table 6: Represents the marital status variable

Marital status				
Marital status	**Frequency**	**Percent**	**Valid percent**	**Cumulative percent**
Bachelor	16	32.0	32.0	32.0
Married	34	68.0	68.0	100.0
Total	50	100.0	100.0	-

Table 7: Represents the training course in clinical reasoning skills

Is the training course in clinical reasoning skills					
Training course		**Frequency**	**Percent**	**Valid percent**	**Cumulative percent**
Valid	No	44	88.0	88.0	88.0
	Yes	6	12.0	12.0	100.0
	Total	50	100.0	100.0	-

Table 8: Represents frequencies, proportions, arithmetic mean, and standard deviation and assessment

Questions	Totally agree		Agree		Neutral		Disagree		Disagree totally		Mean	Std Deviation	Assessment result
	Frequency	Percent %	Frequency	Percent %	Frequency	Percent %	Frequency	Percent %	Frequency	Percent %			
Distinguish the importance of data	31	62	18	36	1	2	0	0	0	0	4.6	0.535	Pass
Discover important issues based on data	34	68	14	28	2	4	0	0	0	0	4.64	0.563	Pass
Determine priorities for problem-solving strategies	0	0	0	0	5	10	44	88	1	2	2.08	0.34	Failure
Comprehensive understanding of the relationship between patient data	34	68	14	28	2	4	0	0	0	0	4.64	0.563	Pass
Linking knowledge to information	0	0	0	0	5	10	44	88	1	2	2.08	0.34	Failure
Understand the patient's general condition	28	56	21	44	1	2	0	0	0	0	4.54	0.542	Pass
Adequate deliberation process for interventions	0	0	0	0	4	8	44	88	2	4	0.204	0.348	Failure
Cause-and-effect analysis of errors in nursing care	0	0	0	0	6	12	44	88	0	0	2.12	0.328	Failure
Constantly examining absent components in an effort to resolve the patient's issue	0	0	0	0	5	10	44	88	1	2	2.08	0.34	Failure
Identify any issues with care and promptly rectify them.	0	0	0	0	0	0	18	36	32	64	4.64	0.485	Pass
Acquire supplementary data in order to completely address the information lacuna.	0	0	0	0	3	6	46	92	1	2	2.04	0.283	Failure
Providing integrative interventions that take into consider the patient's circumstances, including his family and environment.	0	0	0	0	4	8	46	92	0	0	2.08	0.274	Failure
Assessment of the nursing intervention	34	68	15	30	1	2	0	0	0	0	4.66	0.519	Pass
Evaluating the patient's problem-solving outcomes in relation to the desired level	0	0	0	0	3	6	45	90	2	4	2.02	0.319	Failure
Identify the most effective approach to resolve the issue, even after successfully addressing the patient's initial condition.	0	0	0	0	4	8	46	92	0	0	2.08	0.274	Failure
Seeking to acquire updated knowledge pertaining to the professional domain	0	0	0	0	4	8	45	90	1	2	2.06	0.314	Failure
Seeking solutions to inquiries that I am personally unaware of	0	0	0	0	4	8	46	92	0	0	2.08	0.274	Failure
Dedicate additional time to actively address challenges in order to acquire a deeper understanding of the industry.	35	70	14	28	1	2	0	0	0	0	4.68	0.513	Pass
Identify alternative methods to address the patient's issue	36	72	14	28	0	0	0	0	0	0	4.72	0.454	Pass
Prior to intervene, carefully consider any errors or flaws in the strategy.	0	0	1	2	5	10	42	84	2	4	2.1	0.463	Failure
Systematically mirrors the patient's problem-solving approach in a repetitive manner.	0	0	0	0	7	14	43	86	0	0	2.14	0.351	Failure
I hold a distinct viewpoint regarding a patient's health issues.	0	0	0	0	6	12	42	84	2	4	2.08	0.396	Failure

Pass: Scores that are equal to or more than the cutoff point of 3; Failure: Scores that are less than the cutoff point of 3

Discussion

The data presented in the table indicates that 58% of the research population consists of males, while females make up 42%. academic achievement: table (2) shows that 34% hold a preparatory nursing certificate, 40% hold a diploma in nursing, 22% hold a bachelor's degree in nursing, and 4% hold a master's degree in nursing sciences. workplace: table (3) it is clear from the table below that most of the study population are those who work in the emergency department, at a rate of 62%, and in the second degree, the cardiac resuscitation unit, at a rate of 32%, and those who work in the intensive care unit are less, at a rate of 6% of the study sample. age variable: table (4) we see through the age variable that most of the nursing staff who were subjected to the questionnaire are those whose ages range from 25 to 45 years, at a rate of 66% of the study population, in second place for those who are less than 25 years old, and in third place for those who are over 45 years old from the study population. number of years of experience: table (5) it is clear from the table below that most of the study population has years of experience in the category less than five years, at a rate of 46%, in the second category is the category from ten to less than fifteen years, at a rate of 16%, and in the third category, the category is more than 25 years, at a rate of 14% of the study sample. Social status from table (6), to research population the marital status variable, we note that the percentage of married people is 68% and the percentage of single people is 32% of the study population. training courses in clinical reasoning skills: table (7) through the research, it was found that 88% did not have a training course in deductive thinking skills, and that only 12% had courses in clinical reasoning skills. The table (8) presents the frequencies, proportions, arithmetic mean, and standard deviation of the results obtained from the questionnaire. The data was analyzed using the SPSS program, and specific methods from the program were chosen based on the required evidence. These methods include ratios, frequencies, arithmetic mean, and standard deviation. The researcher, utilizing the SPSS program, observed from the table that the predominant tendency in the majority of the study was a lack of agreement with the questions pertaining to the challenges encountered by healthcare nursing personnel when dealing with patients. Based on the questionnaire prepared by the researchers, most respondents do not believe that nursing staff have a role in problem-solving. This conclusion is drawn from the arithmetic mean of the responses, which is lower than the general average of the Likert scale cutoff point, which is 3. Show failure in 63.6% from item questionnaire.

Conclusions

- We note from the research results that there is a severe shortage of nursing personnel (specialty nursing).
- There is a severe shortage in training courses on developing clinical thinking skills for nurses.
- The presence of large percentages of nurses working in emergency units, intensive care units, and recovery units are groups with little experience.
- There is a severe deficiency in nurses' knowledge and the extent to which they apply clinical thinking skills, as the failure rate in the questionnaire items reached 63.6%.

Recommendations

- Providing the hospital with specialized nursing staff.
- Strengthening nursing cadres and developing their clinical reasoning skills by increasing the quantity of instructional programs in the domain of clinical reasoning.
- Strengthening intensive care units and emergency and resuscitation units with nursing staff with experience in the field of clinical work.
- We recommend conducting more research in the field of developing nurses' clinical reasoning skills.

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